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FLEIT, KAIN, GIBBONS, GUTMAN, BONGINI
& BIANCO P.L.
ONE BOCA COMMERCE CENTER
551 NORTHWEST 77TH STREET, SUITE 111
BOCA RATON, FL 33487

EXAMINER	
ORTIZ, BELIX M	

ART UNIT	PAPER NUMBER
2175	5

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/077,371	SAWDON ET AL.	
	Examiner	Art Unit	
	Belix M. Ortiz	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-30 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: in figure 2B, reference character "254", in figure 3, reference characters "312, 314, and 318", in figure 4, reference characters "402, 404, 408, and 410", figure 6B, and figure 7B, are not described in the written description. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Lewis et al. (U.S. publication 2002/0083037).

As to claim 1, Lewis et al. teaches a method for updating a file system snapshot (see abstract), comprising:

accessing a first file system snapshot in a plurality of file system snapshots, wherein the first file system snapshot includes data contents (see page 1, paragraph 4);

copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

writing the data contents which have been copied to a next oldest file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 2, Lewis et al. teaches wherein the copying of the data contents comprises copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode, at least one indirect block referenced by a shadow inode and at least one data block referenced by a disk address in an indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 3, Lewis et al. teaches the method further comprising:

updating the data contents of the first file system snapshot in accordance with modifications to at least one source file corresponding to the first file system snapshot (see abstract and page 1, paragraphs 4 and 13).

As to claim 4, Lewis et al. teaches the method further comprising:

accessing a next most recent file system snapshot (see page 1, paragraph 13 and claim 13);

copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

writing the data contents which have been copied to the first file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 5, Lewis et al. teaches wherein the copying of the data contents includes copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraphs 13 and 14 and claim 31) includes any one of:

at least one shadow inode, at least one indirect block referenced by a shadow inode and at least one data block referenced by a disk address in an indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 6, Lewis et al. teaches a method for retrieving snapshot data, comprising:

accessing in a snapshot dataset a shadow inode corresponding to a source file (see abstract and page 1, paragraphs 4 and 7);

determining whether the shadow inode includes a disk address (see page 2, paragraph 31);

wherein if the shadow inode includes a disk address, reading a data block

referenced by the disk address (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34);

wherein if the shadow inode does not include a disk address and a next most recent snapshot dataset exists, accessing the next most recent snapshot dataset and repeatedly executing the first accessing step, the determining step and the second accessing step until the reading step is executed (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing the next most recent snapshot ..."); and

wherein if the shadow inode does not include a disk address and a next most recent snapshot dataset does not exist, accessing a file system inode corresponding to the shadow inode and reading a data block referenced by a disk address in the file system inode (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing a file system inode corresponding ...").

As to claim 7, Lewis et al. teaches the method further comprising:

wherein if the shadow inode includes a disk address, reading an indirect block referenced by the disk address and at least one data block referenced by

at least one disk address in the indirect block (see abstract; page 1, paragraph 7; and page 2, paragraphs 31 and 34).

As to claim 8, Lewis et al. teaches the method further comprising:

wherein if the shadow inode does not include a disk address, accessing a next most recent snapshot dataset having the same ancestor as the first snapshot dataset and repeatedly executing the first accessing step, the determining step and the second accessing step until the reading step is executed (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing a file system inode corresponding ...").

As to claim 9, Lewis et al. teaches a system for updating a file system snapshot (see abstract), comprising:

means for accessing a first file system snapshot in a plurality of file system snapshots, wherein the first file system snapshot includes data contents (see page 1, paragraph 4);

means for copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced

by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

means for writing the data contents which have been copied to a next oldest file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 10, Lewis et al. teaches wherein the means for copying of the data contents comprises means for copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 11, Lewis et al. teaches the system further comprising:

means for updating the data contents of the first file system snapshot in accordance with modifications to at least one source file corresponding to the first file system snapshot (see abstract and page 1, paragraphs 4 and 13).

As to claim 12, Lewis et al. teaches the method further comprising:

means for accessing a next most recent file system snapshot (see page 1, paragraph 13 and claim 13);

means for copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

means for writing the data contents which have been copied to the first file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 13, Lewis et al. teaches wherein the means for copying of the data contents includes means for copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraphs 13 and 14 and claim 31) includes any one of:

at least one shadow inode, at least one indirect block referenced by a shadow inode and at least one data block referenced by a disk address in an indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 14, Lewis et al. teaches a system for retrieving snapshot data (see page 1, paragraph 4), comprising;

means for accessing in a snapshot dataset a shadow inode corresponding

to a source file (se abstract and page 1, paragraphs 4 and 7);

means for determining whether the shadow inode includes a disk address (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34);

means for reading a data block referenced by the disk address (see page 1, paragraphs 4 and 7);

means for accessing a next most recent snapshot dataset and repeatedly executing the first means for accessing, the means for determining and the second means for accessing until the means for reading is executed (see page 1, paragraph 13 and claim 31); and

means for accessing a file system inode corresponding to the shadow inode and reading a data block referenced by a disk address in the file system inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34).

As to claim 15, Lewis et al. teaches the system further comprising:

means for reading an indirect block referenced by the disk address and at least one data block referenced by at least one disk address in the indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34).

As to claim 16, Lewis et al. teaches the system further comprising:

means for accessing a next most recent snapshot dataset having the same ancestor as the snapshot dataset and repeatedly executing the first means

for accessing, the means for determining and the means for reading (see page 1, paragraph 13 and claim 31).

As to claim 17, Lewis et al. teaches a computer readable medium including computer instructions for updating a file system snapshot (see page 1, paragraph 15), the computer instructions comprising instructions for:

accessing a first file system snapshot in a plurality of file system snapshots, wherein the first file system snapshot includes data contents (see page 1, paragraph 4);

copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

writing the data contents which have been copied to a next oldest file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 18, Lewis et al. teaches wherein the copying of the data contents comprises copying the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode, at least one indirect block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 19, Lewis et al. teaches the method further comprising:

updating the data contents of the first file system snapshot in accordance with modifications to at least one source file corresponding to the first file system snapshot (see abstract and page 1, paragraphs 4 and 13).

As to claim 20, Lewis et al. teaches the computer readable medium further comprising instructions for:

accessing a next most recent file system snapshot (see page 1, paragraph 13 and claim 13);

copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

writing the data contents which have been copied to the first file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 21, Lewis et al. teaches wherein the copying of the data contents includes copying the data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraphs 13 and 14 and claim 31) includes any one of:

at least one shadow inode, at least one indirect block referenced by a shadow inode and at least one data block referenced by a disk address in an indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 22, Lewis et al. teaches a computer readable medium including computer instructions for retrieving snapshot data, the computer instructions (see page 1, paragraph15) comprising instructions for:

accessing in a snapshot dataset a shadow inode corresponding to a source file (see abstract and page 1, paragraphs 4 and 7);

determining whether the shadow inode includes a disk address (see page 2, paragraph 31);

wherein if the shadow inode includes a disk address, reading a data block referenced by the disk address (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34);

wherein if the shadow inode does not include a disk address and a next

most recent snapshot dataset exists, accessing the next most recent snapshot dataset and repeatedly executing the first accessing step, the determining step and the second accessing step until the reading step is executed (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing the next most recent snapshot ..."); and

wherein if the shadow inode does not include a disk address and a next most recent snapshot dataset does not exist, accessing a file system inode corresponding to the shadow inode and reading a data block referenced by a disk address in the file system inode (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing a file system inode corresponding ...").

As to claim 23, Lewis et al. teaches the computer readable medium further comprising instructions for:

wherein if the shadow inode includes a disk address, reading an indirect block referenced by the disk address and at least one data block referenced by at least one disk address in the indirect block (see abstract; page 1, paragraph 7; and page 2, paragraphs 31 and 34).

As to claim 24, Lewis et al. teaches the computer readable medium further comprising instructions for:

wherein if the shadow inode does not include a disk address, accessing a next most recent snapshot dataset having the same ancestor as the first snapshot dataset and repeatedly executing the first accessing step, the determining step and the second accessing step until the reading step is executed (This claim limitation is optionally recited accordingly it does not hold any patentable weight. This limitation may be recited so as to avoid reciting the step as an option such as "after determining whether the shadow inode includes a disk address, accessing a file system inode corresponding ...").

As to claim 25, Lewis et al. teaches a system for updating a file system snapshot (see abstract), comprising:

a first file system snapshot in a plurality of file system snapshots, wherein the first file system snapshot includes data contents (see page 1, paragraph 4);

the data contents of the first file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced

by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

means for writing the data contents to a next oldest file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 26, Lewis et al. teaches wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode, at least one indirect block referenced by a shadow inode and at least one data block referenced by a disk address in an indirect block (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46).

As to claim 27, Lewis et al. teaches the system further comprising:

a next most recent file system snapshot (see page 1, paragraph 13 and claim 13);

data contents of the next most recent file system snapshot, wherein the data contents (see page 1, paragraph 4) includes any one of:

at least one shadow inode and at least one data block referenced by a disk address in a shadow inode (see abstract; page 1, paragraph 7; page 2, paragraph 31; and page 2, paragraph 34); and

at least one shadow inode (see page 3, paragraph 46), and

means for writing the data contents to the first file system snapshot (see abstract; page 1, paragraph 14; and page 3, paragraph 50).

As to claim 28, Lewis et al. teaches a system for retrieving snapshot data, comprising:

a shadow inode in a first snapshot dataset corresponding to a source file (see abstract and page 1, paragraphs 4 and 7);

a disk address included in the shadow inode (see abstract; page 1, paragraph 7; and page 2, paragraphs 31 and 34);

a data block referenced by the disk address (see page 1, paragraphs 4 and 7);

a next most recent snapshot dataset (see page 1, paragraph 13 and claim 31).

As to claim 29, Lewis et al. teaches the system further comprising:

an indirect block referenced by the disk address (see figure 1); and

at least one data block referenced by at least one disk address in the indirect block (see figure 1).

As to claim 30, Lewis et al. teaches the system further comprising:

a next most recent snapshot dataset having the same ancestor as the first snapshot dataset (see figure 2).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belix M. Ortiz whose telephone number is 703-305-7605. The examiner can normally be reached on moday-friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

bmo

August 19, 2004.

C. Rones

CHARLES RONES
PRIMARY EXAMINER